

Amendments to the Specification

Please replace the paragraph at page 9, lines 10 through 18 with the following amended paragraph:

The application model interface 42 provides models for applications 26 communicating with the speech center 20. The power of the speech center 20 derives from the fact that it has significant knowledge about the applications 26 it controls. Without this knowledge, it would be limited to providing little more than simplistic menu based command and control services. Instead, the speech center 20 has a detailed model (e.g., as part of [[the]] a domain model [[70]] 71 (see Fig. 1)) of what a user might say to a particular application 26, and how to respond. That knowledge is provided individually on an application 26 by application 26 basis, and is incorporated into the speech center 20 through the application model interface 42.

Please replace the paragraph at page 11, lines 3 through 8 with the following amended paragraph:

The domain model [[70]] 71 (see Fig. 1) is a model of the “world” (e.g., concepts, one or more grammatic specifications, and a semantic specification) of one or more speech-enabled applications 26. In one embodiment, the domain model [[70]] 71 is a foundation model including base knowledge common to many applications 26. In a preferred embodiment, the domain model [[70]] 71 is extended to include application specific knowledge in an application domain model for each external application 26.

Please replace the paragraph at page 11, line 17 through page 12, line 2 with the following amended paragraph:

In the approach of the present invention, the speech center system 20 has an explicit model of the world (e.g., domain model [[70]] 71) which will serve as a foundation for language understanding and reasoning. Some of the basic concepts that the speech center system 20 models using the domain model [[70]] 71 are:

Things	A basic category that includes all others
Agents	Animate objects, people, organizations, computer programs
Objects	Inanimate objects, including documents and their sub-objects
Locations	Places in the world, within the computer, the network, and within documents
Time	Includes dates, as well as time of day.
Actions	Things that agents can do to alter the state of the world
Attributes	Characteristics of things, such as color, author, etc.
Events	An action that has occurred, will occur, or is occurring over a span of time.

Please replace the paragraph at page 12, lines 3 through 10 with the following amended paragraph:

These concepts are described in the portion of the domain model [\[\[70\]\] 71](#) known as the ontology 64 (i.e., based on an ontological description). The ontology 64 represents the classes of interest in the domain model [\[\[70\]\] 71](#) and their relationships to one another. Classes may be defined as being subclasses of existing classes, for example. Attributes can be defined for particular classes, which associate entities that are members of these classes with other entities in other classes. For example, a *person* class might support a *height* attribute whose value is a member of the *number* class. *Height* is therefore a relation which maps from its domain class, *person*, to its range class, *number*.

Please replace the paragraph at page 12, lines 11 through 19 with the following amended paragraph:

Although the ontology 64 represents the semantic structure of the domain model [\[\[70\]\] 71](#), the ontology 64 says nothing about the language used to speak about the domain model [\[\[70\]\] 71](#). That information is contained within the syntax specification. The base syntax specification contained in the foundation domain model [\[\[70\]\] 71](#) defines a class of simple, natural language-

like sentences that specify how these classes are linked together to form assertions, questions, and commands. For example, given that classes are defined as basic concepts, a simple form of a command is as follows:

```
template command(action)
<command> = <action> thing(action.patient)? manner(action)*.
```

Please replace the paragraph at page 13, lines 7 through 12 with the following amended paragraph:

The description of a speech-enabled application 26 can also introduce additional grammatical constructs that provide more specialized sentence forms for the new classes introduced. In this way, the description includes a model of the "world" related to this application 26, and a way to talk about it. In a preferred embodiment, each supported application 26 has its own domain model [\[\[70\]\] 71](#) included in its associated "application module description" file (with extension "apm").

Please replace the paragraph at page 14, lines 10 through 13 with the following amended paragraph:

One of the most important aspects of the domain model [\[\[70\]\] 71](#) is that it is explicitly represented and accessible to the speech center system 20. Therefore, it can be referred to for help purposes and explanation generation, as well as being much more flexible and customizable than traditional programs.